

AMENDMENTS TO THE CLAIMS:

Claims 1-25 (cancelled).

26. (currently amended) An arrangement for the illumination/irradiation of a human eye, particularly of photosensitive, optically active plastics implanted in the eye, comprising:

an illumination unit;

an optical imaging system responsive to the illumination unit for imaging the illumination to obtain measured values;

an evaluating unit responsive to the measured values from the optical imaging system;

a central control unit for further processing and storing data; and

an output unit for visualization and readout of data;

said illumination unit for generating an illumination which is variable with respect to time and/or space.

27. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein the illumination unit comprises an illumination source and an optoelectronic component.

28. (currently amended) The arrangement for the illumination/irradiation of a human eye according to claim ~~[[26]]~~ 27, wherein a microdisplay or a microscanner mirror is used as optoelectronic component which is controllable with respect to light transmission, light reflection or light emission.

29. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein the central control unit is used for entering, acquiring, processing and storing data and has a user surface and an interface.

30. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein the evaluating unit comprises an image-recording and image-processing unit.

31. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein a monitor, a printer and/or a HMD (head mounted display) are used as output unit for the visualization and output of data.

32. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein the optical imaging system has an adjustable numerical aperture and/or a variable back focus or focal length for sharp imaging of the illumination pattern in different planes.

33. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein a self-luminous array is used instead of the illumination unit.

34. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein an eyetracker unit is provided and comprises a camera and a preferably infrared illumination which is coupled in, for example, by means of a beam splitter.

35. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein a fixating mark is additionally projected on the eye to be treated or on the other eye which is not to be treated, this fixating mark being formed as a blinking light mark which is presented optically from infinity and/or is adjustable to the refraction state of the patient.

36. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein the arrangement is used for the illumination of photosensitive plastics already implanted in the eye, in particular intercorneal rings.

37. (currently amended) A method for the illumination/irradiation of a human eye, particularly when operating an arrangement comprising an illumination unit, an optical imaging

system responsive to the measured values from the optical imaging system, an evaluating unit responsive to the measured values from the optical imaging system, a central control unit for further processing and storing data, and an output unit for visualization and readout of data; the method includes the steps of generating an illumination which is variable with respect to time and/or space, and applying said illumination to photosensitive, optically active plastics implanted in the eye.

38. (previously presented) The method for the illumination/irradiation of a human eye according to claim 37, further comprising the steps of entering the result data which have been determined beforehand manually or by transferring the data via an existing interface or through a decision by the arrangement itself.

39. (currently amended) The method for the illumination/irradiation of a human eye according to claim 37, including the step of imaging the irradiation pattern generated by the illumination unit, comprising an illumination source and ~~[[the]]~~ an optoelectronic component, by the imaging system in a freely adjustable object plane.

40. (previously presented) The method for the illumination/irradiation of a human eye according to claim 37, wherein an automatic image evaluation and/or online control are/is made possible based on the measured values determined by the evaluating unit.

41. (currently amended) The method for the illumination/irradiation of a human eye according to claim 37, ~~wherein the~~ including storing determined data ~~are stored~~ for recording, documentation and evaluation.

42. (currently amended) The method for the illumination/irradiation of a human eye according to claim 37, wherein ~~[[the]]~~ evaluation results are documented by the output unit.

43. (currently amended) The method for the illumination/irradiation of a human eye according to claim 37, wherein static or dynamic irradiation patterns geared to ~~[[the]]~~ a specific application can be generated for directed spatial and temporal sequences.

44. (currently amended) The method for the illumination/irradiation of a human eye according to claim 37, wherein parameters which are required for ~~[[the]]~~ an intended purpose

are determined on the basis of these data by the central control unit and conveyed to the illumination source unit.

45. (currently amended) The method for the illumination/irradiation of a human eye according to claim 37, wherein ~~[[the]]~~ an eyetracker checks whether or not the generated illumination patterns strike exactly ~~[[the]]~~ areas of the eye or of ~~[[the]]~~ a photosensitive plastic to be irradiated during the irradiation.

46. (currently amended) The method for the illumination/irradiation of a human eye according to claim 37, wherein ~~[[the]]~~ generated illumination patterns track a possible eye movement by ~~means of the~~ an eyetracker unit and the illumination unit.

47. (previously presented) The arrangement for the illumination/irradiation of a human eye according to claim 26, wherein a fixating /mark is additionally projected on the eye to be treated or on the other eye which is not to be treated, this fixating mark being formed as a blinking light mark which is presented optically from infinity and is freely adjustable with respect to its attitude and position.

48. (currently amended) The method for the illumination/irradiation of a human eye according to claim 37, wherein ~~[[the]]~~ a generated illumination pattern is used for the illumination of photosensitive plastics already implanted in the eye, in particular intercorneal rings.

49. (currently amended) A device for the illumination/irradiation of a human eye according to claim 26, wherein ~~[[the]]~~ an irradiation unit which comprises ~~[[the]]~~ an illumination source and ~~[[the]]~~ an optoelectronic component is constructed as an independent unit which can be used as an accessory unit for various ophthalmological instruments such as slit lamps, fundus cameras, laser scanners and OPMI devices in order to generate illumination structures or irradiation structures with a defined dosage.

50. (currently amended) The device for illumination/irradiation according to claim 26, wherein ~~[[the]]~~ an irradiation unit which comprises ~~[[the]]~~ an illumination source and ~~[[the]]~~ an optoelectronic component is constructed as an independent unit which can be used as an

accessory unit for various dermatological irradiation instruments in order to generate illumination structures or irradiation structures with a defined dosage.